

What is claimed is:

1. An electronic toy capable of controlling motions arbitrarily in accordance with external inputs, comprising:

detection means for detection said external inputs;

storage means for storing information relating to a plurality of motion patterns which moves said electronic toy;

parameter alteration means for establishing a parameter value in accordance with predetermined time intervals;

selection means for selecting, upon detection signals being output from said detection means, information on an arbitrary motion pattern among the plurality of motion patterns stored in said storage means responsive to the parameter value set by said parameter alteration means; and

control means for controlling the electronic toy to move in the motion pattern selected by said selection means.

2. An electronic toy according to claim 1, wherein said parameter alteration means alternates between a happy mode and grumpy mode in predetermined cycles based on the control parameter which changes together with the lapse in time.

3. An electronic toy according to claim 1, wherein said parameter alteration means changes the cycle of said happy mode and grumpy mode in accordance with the number of detections by said detection means.

4. An electronic toy according to claim 1, wherein said selection means selects information on a predetermined motion pattern based upon changes in said parameter values.

5. An electronic toy according to claim 1, wherein said detection means comprises:

sound detection means for detecting external sound;

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contact detection means for detecting external contact; and  
light detection means for detecting changes in the brightness  
of the surrounding light.

6. An electronic toy according to claim 1, comprising said  
counter means for counting the number of detection signals output from  
said detection means, said counter means comprising:

- first counter means for counting the number of detections of  
5 said sound detection means;
- second counter means for counting the number of detections of  
said contact detection means; and
- third counter means for counting the number of detections of  
said light detection means.

7. An electronic toy according to claim 6, wherein said  
selection means selects information on a special motion pattern when the  
value showing the change in said parameter and the count value of said first  
to third counter means coincide.

8. An electronic toy according to claim 1, wherein said  
storage means comprises:

- a first storage unit for storing data of a plurality of posture  
motion patterns which changes the posture;
- 5 a second storage unit for storing data of a plurality of sound  
patterns which changes the sound; and
- a third storage unit for storing data of a plurality of expression  
patterns which changes the expression.

9. An electronic toy according to claim 8, wherein said  
selection means selects a combination of said posture motion pattern,  
sound pattern, and expression pattern stored in said storage means.

10. An electronic toy according to claim 8, characterized in that said expression pattern includes a motion pattern for changing at least the size or the shape of the eyes.

11. An electronic toy according to claim 1, wherein said control means comprises an information processor for controlling the electronic toy, and said detection means comprises a plurality of sensory inputs for generating sensory signals indicative of handling and touching sensory inputs received by said information processor.

12. An electronic toy according to claim 11, wherein said plurality of sensory inputs comprises a magnetic sensor for generating sensory signals indicative of the presence of a magnet in the vicinity of the magnetic sensory.

13. An electronic toy according to claim 12, wherein said magnetic sensor is coupled to said information processor for indicating a feeding function comprising a bone having a magnet therein for placement in the vicinity of the magnetic sensor.

14. An electronic toy according to claim 11, wherein said plurality of sensory inputs comprises a sensor for generating sensory signals indicative of the positioning of apparatus in the vicinity of the electronic toy.

15. An electronic toy according to claim 11, wherein said plurality of sensory inputs comprise pushbutton switches coupled to said information processor.

16. An electronic toy according to claim 11, wherein said plurality of sensory inputs comprises infrared light detection.

17. A control method of an electronic toy, comprising:  
detecting signals output from sensory input sensors for  
representing external inputs with parameter values responsive to sensory  
input detection;

5 changing the parameter values in accordance with  
predetermined time intervals;

10 selecting, upon detection signals being output from said  
detecting step, information on an arbitrary motion pattern among the  
plurality of motion patterns stored in storage means responsive to the  
parameter value; and

controlling the electronic toy to move in the selected motion  
pattern.

18. A method according to claim 17, comprising the step of  
providing an infrared communication link as a sensory input for  
information processing.

19. A method according to claim 18, comprising the step of  
causing a plurality of interactive electronic toys to communicate with one  
another via the infrared communication link.

20. A method according to claim 17, comprising an audio  
generation step for generating auditory sensory output related to the  
environment of the electronic toy.

21. A method according to claim 20, comprising information  
processing for coordinating movements of the electronic toy with differing  
operational states including sleeping, waking, excited, and hungry states  
with the auditory sensory output to complement the different states.

22. A method according to claim 17, wherein said parameter  
alteration means alternates between a happy mode and grumpy mode in  
predetermined cycles based on the control parameter which changes  
together with the lapse in time.

23. An electronic toy capable of controlling motions arbitrarily in accordance with external inputs, comprising:

a head housing a drive motor and a transmission mechanism for transmitting rotational driving force to said drive motor;

5 a display provided to the front of said head for displaying the shape of the eyes;

first detection means provided on the top of said head for detecting the pressing thereof;

second detection means for detecting sound;

10 third detection means for detecting the peripheral brightness;

a body housing a cam mechanism for transmitting rotational driving force to said drive motor via said transmission mechanism;

legs driven by said cam mechanism;

a lower jaw driven by said transmission mechanism;

15 ears driven by said transmission mechanism;

storage means for storing the respective motion patterns of said legs, lower jaw, and ears; and

20 a controller for selecting an arbitrary motion pattern among the plurality of motion patterns stored in said storage means in accordance with the timing of detection signals output from said first to third detection means, and controlling said drive motor and the display pattern of said display in accordance with the selected motion pattern.

24. An electronic toy according to claim 23, comprising:

initialization means for setting the initial mode for a period after the power is turned on until a prescribed time elapses;

detection means for detecting external inputs;

5 a counter for counting the number of detections from said detection means while the initial mode is being set by said initialization means; and

individual difference setting means for setting individual differences in accordance with the count value of said counter.

25. An electronic toy according to claim 23, comprising:  
initialization means for setting the initial mode for a period  
after the power is turned on until a prescribed time elapses;  
detection means for detecting external inputs;  
5 a plurality of counters for counting the number of detections  
from said plurality of detection means while the initial mode is being set by  
said initialization means; and  
individual difference setting means for setting individual  
differences in accordance with the detection means having the highest count  
10 value among the respective count values of said plurality of counters.
26. An electronic toy according to claim 24, wherein said  
individual difference setting means sets individual differences pursuant to  
whether the count value of said counter is an odd or even number.
27. An electronic toy according to claim 24, wherein said  
individual difference setting means sets the gender in accordance with the  
count value of said counter, and changes at least one among the expression  
of the eyes, sound, or motion corresponding to said set gender.
28. A computer-readable storage medium, comprising:  
a data acquisition interface for receiving sensory input  
represented by detection signals responsive to external inputs;  
a control program for establishing and altering a parameter  
5 value representative of the received sensory input, said control program  
changing the parameter value in accordance with predetermined time  
intervals;  
said control program selecting, upon detection signals being  
output from said detection means, information on an arbitrary motion  
10 pattern among the plurality of motion patterns stored in storage means  
responsive to the parameter value; and  
said control program controlling the electronic toy to move in  
the selected motion pattern.

29. An electronic toy capable of controlling motions arbitrarily in accordance with external inputs, comprising:

5 a selection switch for selecting between a character standard mode for performing motions of a standard specification character and a character rearing mode for rearing a character;

a memory for storing an initial setting for said character standard mode or said character rearing mode in accordance with the operation of said selection switch; and

10 a programmable controller responsive to said memory for performing motions in said character standard mode or said character rearing mode in accordance with the operation of said initial setting means.

30. An electronic toy according to claim 29, wherein said character standard mode is set by an initial setting associated with said memory, said programmable controller controlling motions on the basis of data of said standard mode.

31. An electronic toy according to claim 30, wherein said character rearing mode is set by an initial setting associated with said memory, the controlling data being renewed to provide emotion data with a level of control in accordance with the number input from outside during 5 a prescribed period of time, and motions controlled pursuant to said renewed emotion data.

32. An electronic toy according to claim 31, wherein said character rearing mode is set by an initial setting of said memory for an immature period where said controlling data is not renewed at prescribed time intervals; a rearing period where controlling data is renewed to 5 emotion data with a level of control in accordance with the number input from outside during a prescribed period of time; and a completion-of-rearing period where motions are controlled in accordance with emotion data with a level of control renewed during said rearing period.

33. An electronic toy according to claim 31, wherein the emotion data is renewed in accordance with the frequency of input of sounds, food, contacts, etc. during said rearing period, and motions are controlled in accordance with said renewed emotion data.

34. An electronic toy according to claim 29, wherein said programmable controller sets either a first controlling flag for performing actions pursuant to at least the content of instructions which are input, or a second controlling flag for performing actions differing from said inputted instructions, and motions are controlled in accordance with the flag set.